

Docket No. PUR-020
Serial No. 10/735,352

PATENT APPLICATION

REMARKS/ARGUMENTS

This is in full and timely response to the initial Office Action dated January 25, 2005 (Paper No. 01122005). Reconsideration and reexamination are respectfully requested in view of the foregoing amendment and the following remarks.

By the foregoing amendment, claims 1, 4, 7 to 23, 25 to 27, 30, 33 to 35 and 38 to 49 have been cancelled, claims 2, 3, 5, 6, 24, 28, 31, 32, 36 and 37 have been amended, and new claims 50 and 51 have been added. Claims 2, 3, 5, 6, 24, 28, 29, 31, 32, 36, 37, 50 and 51 remain pending in this application.

On page 2 of the Office Action, the Examiner stated that Figs. 1 to 4 should be designated by a legend such as –Prior Art– because only that which is old is illustrated. Accordingly, a Letter to the Official Draftsperson and Replacement Sheet of drawings is being filed herewith to make this correction.

Claims 28 and 36 have been rewritten into independent form by this Amendment and are the only independent claims remaining of the claims rejected by the Examiner. Thus, the following remarks will be directed mainly to the Examiner's rejections of claims 28 and 36.

Rejection of Claim 28 Based on Sarge et al. In View of Klint

Claim 28 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Sarge et al. (U.S. Patent Publication No. 2001/0041881) in view of Klint (U.S. Patent Publication No. 2001/0044633). To the extent that this rejection might still be applied to claim 28 as amended, it is respectfully traversed for the following reasons.

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Sarge et al. discloses a catheter having continuous lattice and coil reinforcement for performing medical procedures. The catheter includes an inner tubular member with a lumen and a support member overlaying the inner tubular member. The support member includes a multilayered portion with each layer comprising a plurality of turns formed by a single filament 300. In the described embodiment, the winding of the filament 300 proceeds from a distal end of the catheter towards the proximal end. At a desired point near the proximal end, the winding direction is reversed so that the filament 300 moves back toward the distal end with turns 306 that overlay turns 304 of the first layer 82. The winding of filament 300 again changes directions and proceeds back toward the proximal end with a third layer 86 of turns 308 that overlay the turns 306 of the second layer 84.

Sarge et al. does not disclose the claimed method step of anchoring the filament 300 at the proximal end of the catheter during the winding process. Sarge et al. also lacks any teaching or suggestion of the step of winding a group of filaments simultaneously, or the step of providing a guide assembly for a group of filaments, as recited in claim 28.

The Examiner relies upon Klint for a teaching of winding a group of filaments simultaneously, and particularly refers to paragraph 0015 of Klint. The Examiner further relies upon Klint for a teaching of a guide assembly having a filament engaging surface arranged as recited in claim 28. However, Klint does not teach a guide assembly for winding a group of filaments simultaneously as claimed.

Klint discloses a medical device, such as a catheter, having a body portion 3 with a central longitudinally extending lumen 6 and a multiple filament helically wound row A of wires

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5. The wires 5 are placed in a row next or closely adjacent to each other, and the group of wires is wound according to a desired pitch angle onto the body portion. Klint discloses a first method of winding the wires 5 using the inside end of a tubular support member (not shown). In this method, the row of wires is inserted at the end of the tubular support member by rotating and simultaneously pushing the wires against the inside of the support member (see page 3, paragraph 0048). This first method of winding the wires 5 would seem to have little relevance to the Applicant's claimed invention.

Klint further discloses a second method of winding the wires 5 using a mandrel 7, as shown in Fig. 7 (see, e.g., page 3, paragraph 0049). After winding the wires 5 onto the mandrel 7, the coiled wires are heated to remove residual stresses from the wires. After the heat treatment, the mandrel 7 is then removed from the wires 5, leaving the wires 5 to maintain their positions. Although Klint does not describe or show a guide assembly for guiding the wires 5 to the mandrel 7 during the winding process, it can be seen in Fig. 7 of Klint that the wires 5 are fed during the winding process to the outer surface of the mandrel 7 in a plane which is generally parallel to the longitudinal axis of the mandrel 7. Even if some sort of guide assembly is inherent in the teachings of Klint, such guide assembly is clearly not one with a filament engaging surface that "lies in a plane which is generally perpendicular to a longitudinal axis of the core member."

The Examiner contends that it would have been obvious at the time of the Applicant's invention to wind a group of filaments simultaneously (claim 22) in the process taught by Sarge et al., in view of the multiple filament teachings of Klint. The Examiner further contends that the step of providing a guide assembly, as recited in claim 28, is taught by Klint. However, the

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Examiner does not identify any specific teachings or elements of Klint that can be construed as the claimed guide assembly having a filament engaging surface that lies in a plane which is generally perpendicular to a longitudinal axis of the core member. Further, the Examiner does not explain any teaching, suggestion or motivation found in either of the applied references for modifying Sarge et al. to incorporate the guide assembly allegedly taught by Klint.

As explained above, Klint does not teach or suggest a guide assembly having a filament engaging surface, and particularly not one having a filament engaging surface arranged to lie in a plane which is generally perpendicular to a longitudinal axis of the mandrel. Indeed, Klint teaches away from such a guide assembly by illustrating in Fig. 7 a group of filaments that are oriented in a plane which is parallel to the longitudinal axis of the mandrel, instead of perpendicular to the mandrel axis.

In contrast, the Applicant's invention uses a guide assembly having a filament engaging surface that lies in a plane which is generally perpendicular to a longitudinal axis of the core member. The guide assembly orients the group of filaments so that they are spaced vertically (when the longitudinal axis of the core member is horizontal), but not horizontally. That is, the group of filaments leave the filament engaging surface of the guide assembly in a plane which is perpendicular to the core member. As the group of filaments make contact with the core member, the filaments naturally re-orient themselves into a parallel plane with the axis of the core member as they are wrapped onto the core member. This provides a relatively simple, yet highly effective method of forming a "band" of filaments on the core member. This claimed feature of the Applicant's invention allows the filaments within a group of filaments to be

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positioned side-by-side and packed tightly against one another as the group of filaments are wound onto the core member. As a result, a high number of filaments can be laid in a single band.

Accordingly, the Examiner is respectfully requested to reconsider and withdraw his rejection of claim 28 under 35 U.S.C. 103(a) based on Sarge et al. in view of Klint. Claims 2, 3, 5, 6, 24 and 29 have all been made to depend, either directly or indirectly, upon claim 28, and are believed to be patentable for at least the same reasons explained above regarding claim 28, as well as the additional patentable subject matter recited in each of the respective claims.

Rejection of Claim 36 Based on Klint in view of Sarge et al.

Claim 36 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Klint in view of Sarge et al. The teachings of Klint and Sarge et al. are explained above. The Examiner contends that Klint discloses the claimed invention, except for the claimed step of rotating the core member relative to a source of the filaments and passing the source of filaments in a first direction of axial movement relative to the core member. The Examiner relies upon Sarge et al. for a teaching of these features. To the extent that this rejection might still be applied to the claim 36 as amended, it is respectfully traversed for the following reasons.

As explained above in response to the Examiner's rejection of claim 28, Klint does not teach or suggest a guide assembly having a filament engaging surface, and particularly not one having a filament engaging surface arranged to lie in a plane which is generally perpendicular to a longitudinal axis of the mandrel. Indeed, Klint teaches away from such a guide assembly by

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illustrating in Fig. 7 a group of filaments that are oriented in a plane which is parallel to the longitudinal axis of the mandrel, instead of perpendicular to the mandrel axis.

Accordingly, the Examiner is respectfully requested to reconsider and withdraw his rejection of claim 36 under 35 U.S.C. 103(a) based on Klint in view of Sarge et al. Claims 31, 32 and 37 have all been made to depend, either directly or indirectly, upon claim 36, and are believed to be patentable for at least the same reasons explained above regarding claim 36, as well as the additional patentable subject matter recited in each of these respective claims.

New Claims 50 and 51

New claims 50 and 51 have been added to claim additional features of the Applicant's invention for the Examiner's consideration. Claim 50 is believed to be patentable for at least the reason that the prior art does not teach a method of making a catheter in which a group of filaments are anchored (at least temporarily) to a proximal end of the catheter and then wound onto the catheter continuously from the proximal end to the distal end, and then back to the proximal end. Support for this feature of the Applicant's invention can be found, for example, in paragraph Nos. 0044 to 0046 of the Applicant's specification.

Claim 51 depends upon claim 50 and recites the additional method step of passing the group of filaments through a guide assembly to orient the group of filaments into a plane which is generally perpendicular to a longitudinal axis of the core member, and then allowing the filaments to be naturally reoriented and packed tightly against one another as the group of filaments are wound onto the core member. Support for this feature of the Applicant's invention

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can be found, for example, in paragraph Nos. 0044 to 0046 of the Applicant's specification, and in Fig. 15 of the drawings.


Conclusion

For at least the foregoing reasons, it is respectfully submitted that all of the pending claims in this application are patentable over the applied prior art, and that this application is now in condition for allowance. Early issuance of a Notice of Allowance is respectfully requested.

If the Examiner has any comments or suggestions that could place this application into even better form, the Examiner is encouraged to contact the Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted by:

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